## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 13 January 2005 (13.01.2005)

PCT

## (10) International Publication Number WO 2005/003130 A1

(51) International Patent Classification7: C07D 471/04, A61K 31/4745, A61P 25/00, 35/00

(21) International Application Number:

PCT/EP2004/051315

(22) International Filing Date: 30 June 2004 (30.06.2004)

(25) Filing Language:

English

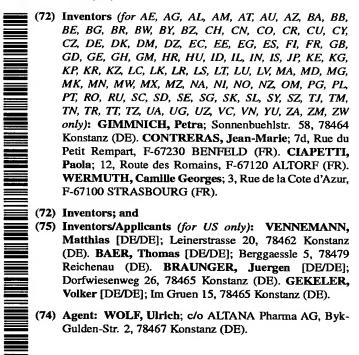
(26) Publication Language:

English

(30) Priority Data: 03014424.0

30 June 2003 (30.06.2003)

(71) Applicant (for all designated States except US): ALTANA PHARMA AG [DE/DE]; Byk-Gulden-Str. 2, 78467 Konstanz (DE).



(72) Inventors; and

(75) Inventors/Applicants (for US only): VENNEMANN, Matthias [DE/DE]; Leinerstrasse 20, 78462 Konstanz (DE). BAER, Thomas [DE/DE]; Berggaessle 5, 78479 Reichenau (DE). BRAUNGER, Juergen [DE/DE]; Dorfwiesenweg 26, 78465 Konstanz (DE). GEKELER, Volker [DE/DE]; Im Gruen 15, 78465 Konstanz (DE).

(74) Agent: WOLF, Ulrich; c/o ALTANA Pharma AG, Byk-Gulden-Str. 2, 78467 Konstanz (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### **Declarations under Rule 4.17:**

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

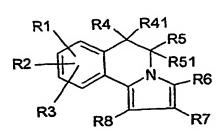
of inventorship (Rule 4.17(iv)) for US only

#### Published:

with international search report

[Continued on next page]

(54) Title: NOVEL PYRROLODIHYDROISOQUINOLINES USEFUL IN THE TREATMENT OF CANCER



(57) Abstract: The invention relates to novel pyrrolodihydroisoquinoline derivatives, which are efficacious inhibitors of cellular (hyper)proliferation and/or inducers of apoptosis in cancer cells.

WO 2005/003130

# WO 2005/003130 A1



 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.